BARON'S MicroComputing REPORTS

THIS REPORT IS EXCLUSIVELY FOR SUBSCRIBERS OF BARON'S MICROCOMPUTING REPORTS, 344 E. 49th STREET, NEW YORK, N.Y. 10017

PERSONALIZED REPORT FOR: APPLE

October, 1983 Edited by Harry & Ronni Geist

* APPLESOFT PROGRAMMING TIPS:

. Concerned about others tampering with the program you write? If you want a simple method of making your Applesoft program non-listable, include the statement:

```
1 POKE 214, 255
```

as the first executable statement in your program. Once the program is RUN, this POKE statement causes the Apple to interpret any DOS command (LIST, CATALOG, etc.) as a RUN command. If you LOAD the program first, you will still be able to list it.

. If you are using INPUT statement to accept data which is one character in length, for example:

```
20 PRINT "TYPE IN EITHER 'A' 'B' OR 'C':"
30 INPUT K$
```

consider using the GET statement instead.

```
30 GET K$
```

GET automatically takes the first character entered and assigns that value to the string variable appearing in the statement. Also, when using a GET statement, it is not necessary to press the RETURN key when the data is entered as is required with the INPUT statement.

There are a few considerations to take into account when using GET:

1. The character inputted is not displayed on the screen as it would be with the INPUT statement. To have it displayed, simply follow the GET statement with a PRINT statement:

```
30 GET K$: PRINT K$
```

2. It is not recommended that a numeric variable be used in a GET statement. If you want a single digit entered, use a string variable in the GET statement and then convert it to a numeric value using the VAL function:

```
40 PRINT "ENTER 1, 2, OR 3"
50 GET ANS$
60 IF ANS$ <> "1" AND ANS$ <> "2" AND ANS$ <> "3" THEN 40
70 A = VAL(ANS$)
```

Note that line 60 checks to make sure that the correct data was entered.

3. A CONTROL-C will not interrupt the execution of a program if entered while the computer is waiting for a response to a GET statement. If you want to interrupt the program, enter the requested response and then type Control-C.

If you have any hardware or software questions, concerns, problems, suggestions, or information you would like to share, send them to the Apple Technical Editors, BARON'S MICROCOMPUTING REPORTS, 344 East 49th Street, New York, NY 10017.

* FREE SUBSCRIPTIONS FOR APPLE OWNERS

o Apple Education News is a newsletter for which you should send if you are interested in the use of the Apple in an educational setting. Billed as "an information service for educators and trainers," this quarterly pamphlet, published by Apple Computer, Inc., highlights new educational software, applications, and

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(Continued on page 10)

trends. For a courtesy subscription, send your name and address to: Apple Education News, 20525 Mariani Avenue, Cupertino, CA 95014.

o Professionally Speaking is another free Apple publication. This quarterly bulletin is "an information service for the professional" and is available by writing to: Professionally Speaking, 20525 Mariani Avenue, Cupertino, CA 95014.
This pamphlet focuses on business-oriented hardware, software, and applications for professionals who use Apple microcomputers in their work.

* APPLE USER GROUPS

An excellent way to share information about Apple microcomputers is through a local Apple User Group. There are hundreds of such groups throughout the country and around the world. The International Apple Core, Inc. (IAC), headquartered in Santa Clara, California, is the parent organization of many of these groups. The IAC makes available to its member groups an annual subscription to their publication Apple Orchard, monthly disks of public domain software, and the Apple Tech Notes -- a compendium of information on Apple-related hardware and software.
If you want to find out if there is an IAC-affiliated User Group in your area, send a self-addressed, stamped envelope to: International Apple Core, Inc., 908 George Street, Santa Clara, CA 95050.

* IAC DISK OF THE MONTH (DOM)

Each month, the International Apple Core sends to its member groups a public domain diskette containing Apple software compiled from users groups and other sources. As of this September, a listing of the programs on the IAC Disk of the Month (DOM) will be published in Apple Orchard magazine. If you are interested in a copy of the DOM, contact your local Apple User Group. (You may be charged a small fee for copying the diskette.)
If there is no user group in your area and you wish to obtain a copy of an IAC DOM, you may purchase a copy directly from the IAC (see above address) for $20 (plus 6-1/2% sales tax for California residents). Some previously issued diskettes can be purchased for $8 (plus tax). These include a Machine Language Tutorial, an Applesoft Tutorial, an Educational Disk, and a disk of nine high-resolution games. Since new diskettes are issued monthly, the current DOM is available directly from the IAC for only a couple of months.

* NEW PRODUCTS

o POLAROID PALETTE: Do you need to make slides or photographs of your computer-generated graphics? This recently announced product creates 35mm slides and instant photographs of images created on your Apple II+ or IIe. At $1,300, this device is cost-effective when compared with the price of professionally prepared graphic slides. For more information, contact the Polaroid Corporation, 575 Technology Square, Cambridge, MA 02139.

o PKASO INTERFACE CARD ($195): If you have an Apple III with a dot-matrix printer, you can add text and graphics capabilities, including the creation of customized character sets. For further information: Interactive Structures, Inc., 146 Montgomery Avenue, Bala Cynwyd, PA 19004.

o TRANSTAR 315: Interested in color graphic printouts from your Apple? For only $599, this printer employs a new technology to produce seven colors and more than thirty shades of print in a single pass. In addition, it can be purchased with an extra option -- a card that allows instant printing of any high- or low-resolution screen simply by pressing the copy button. For more information, contact Transtar, P.O. Box C-96975, Bellevue, WA 98009.

o ACCELERATOR II ($599): If you use VisiCalc, you know how long it takes to recalculate a large spreadsheet. With this board, your Apple will run more than three times faster with VisiCalc, DB Master and other software. Available from Saturn Systems, Inc., P.O. Box 8050, Ann Arbor, MI 48107.

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PERSONALIZED REPORT FOR: **ATARI**

October, 1983 Edited by Ernest Scatton

* THREE NEW WORD PROCESSING PROGRAMS

For the last two years or so, Atari users have had only three serious word processing packages to choose from: Atari's own Word Processor, LJK's Letter Perfect, and Data Soft's Text Wizard. Their number has doubled in the late spring and early summer:

o ATARIWRITER (Atari, Inc., P.O. Box 61657, Sunnyvale, CA 94086; $99.95)

By far the most powerful of the three new word processors. Atariwriter is formatted as a 16K cartridge which, however, requires Atari DOS. This simple, menu-driven program supports a wide range of standard editing, cursor-movement, and disk-utility functions. With one significant exception (below), it provides fast and versatile printing by a combination of dedicated format lines and embedded control codes. Justification, headers, footers, paging are all supported. Individual files may be as long as available RAM; separate files may be chained together for printing. The editor window is 21 lines of 38 characters; however, a full-page fully-formatted screen preview (with horizontal scrolling) is provided.

Cautionary note: Atariwriter fully supports only four Atari printers: 1025, 825, 820, 822. If you have a different printer, you may be able to use some of its special features by imbedding escape codes in the text (Atariwriter allows this). But, printer controls built into the program (such as font changes and underlining) may not work. Other printer drivers will be made available by the Atari Program Exchange (APX, P.O. Box 3705, Santa Clara, CA 95055). One (APX 20223, $17.95) provides drivers for 7 Epson printers, Gemini 10, NEC 8023A, Prowriter 8510, and Atari 1027 and 1020. Call APX (CA: 800-672-1850, elsewhere: 800-538-1862) to check the availability of other drivers.

o BANK STREET WRITER (Broderbund Software, 1938 4th Street, San Rafael, CA 94901; $69.95) is a disk-based program, requiring 48K RAM. It provides basic editing and filing functions. Its printing capabilities are rather limited: documents can be formatted for line length, line spacing, page numbering, headers and footers; for example, files can be changed. But advanced features (such as italics, underlining, font changes, and screen preview) are not supported, nor is it possible to insert printer control characters in text files. With these constraints and a text limit of approximately 2300 words, Bank Street Writer is suitable for relatively light word processing chores such as uncomplicated letters, memorandums, and reports. Its greatest advantage is the ease with which it can be learned and used -- a clear consequence of its functional limitations and the disk-based tutorial which comes with it.

o PAGEWRITER (ALOG Computing, 1040 Veronica Springs Road, Santa Barbara, CA 93105; $39.95) is by far the most limited of the three new word processors. Requiring 32K and a disk drive, the program's aim, in ALOG's own words, is to make the ATARI emulate a typewriter. Pagewriter displays a bit map of a standard 8-½ x 11 page, where each pixel represents one character position; at the bottom of the screen is a two-line text window. As characters are entered, they appear in the text window; at the same time the appropriate pixels on the page display are turned on or off. When finished, the page is stored and/or printed; only

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10 pages may be stored on each disk. A few basic editing functions are provided; justification (line by line) is supported; and limited printer control is possible by imbedding control characters in the text. Pagewriter is not an ambitious program, and it is hard to see how it might be used beyond the most rudimentary word processing tasks.

* HARDWARE

o DROWSY PERIPHERALS

Operating system modules manufactured (not sold) before December, 1981 contain a bug that causes disk drives and printers to pause for unpredictable amounts of time. This problem can be eliminated by replacing two chips in the OS module. In order to determine if you have the older OS (version A), run the following program: PRINT PEEK (58383). If the program returns 56, you have version A; if it returns 0, you have the newer version B. If necessary, a local Atari service center can up-grade your OS for about $50. If you aren't afraid to handle chips, you can save time and money by up-grading the OS yourself. First, purchase two chips: C012499 Rev B and C014599 Rev B from an authorized Atari service center or directly from Atari (800-538-8543) for $10-12 apiece. Use these to replace two chips with the same numbers in the OS ROM module that is located under the Atari's main cover.

Hint: To open the module it is necessary to remove or cut the narrow paper label on the back of it before removing the two small screws which hold the module together. Replace one chip at a time to avoid getting them mixed up. Be certain that you position the new chips exactly like the old ones by following the notches on the chips (if they're turned around the wrong way, they won't work).

o TAPE DRIVE INTERFACES

Users frequently ask if it is possible to connect a tape drive other than the Atari 410 to their Atari 400/800 computers. Two interface devices that make this possible are:

. EFD 600 - $49.95 - from Essence Peripheral Systems, 454 Cherokee Avenue SE, Atlanta, GA 30312.

. CASADAPTER - $34.95 - from SAR-AN Computer Products, 12 Scamridge Drive, Buffalo, NY 14211.

* DOING IT YOURSELF

o GETTING AROUND THE 850

The two Atari joystick ports can be used to connect a parallel printer directly to a 400/800 computer, eliminating the need to purchase an interface module. Instructions for accomplishing this through appropriate cable connections and driver program software are given by Clifford Engels in the August, 1983 issue of Microcomputing. (Send $4.50 to: 80 Pine St., Peterborough, NH 03458.)

* BOOKS

o FREE SOFTWARE FOR YOUR ATARI by David and Dorothy Heller, 208 pp., $8.95 (Enrich/Ohaus, 2325 Paragon Drive, San Jose, CA 95131): An encyclopedia of information for users interested in reaching public access bulletin boards, particularly with an eye to aquiring public domain software; introduction to relevant hardware and software issues, survey of compatible modems, phone numbers of more than 100 Atari bulletin boards and 500 general public access bulletin boards, and listings of official and "unofficial" Atari users' groups.

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PERSONALIZED REPORT FOR: COMMODORE

October, 1983 Edited by Morton A. Kevelson

* EASY SYSTEM RESET

It becomes necessary at times to completely reset your Commodore 64 or VIC-20. Either computer can be reset to power up conditions without turning it off. All that you have to do is simply to type:

```
SYS PEEKK(65532)+256*PEEK(65533)
```

One of the advantages of doing this is that it enables you to restore any BASIC program in memory without reloading. You can also reenter any machine language utility, such as DOS Wedge, or routine that may be in memory at the time of the reset.

This technique actually works with any 6502-based machine. The 6502 microprocessor is equipped with a reset pin that is normally held at a logical state of 1. If this pin is forced in a logical state of 0 by momentarily grounding it, the microprocessor performs an indirect jump to the address contained in the locations peeked at above. This is precisely what happens when the VIC-20 and Commodore 64 are turned on. The same thing happens when the reset button is depressed on an expansion chassis installed in the expansion port. Since the reset line is common to peripherals on the serial bus (disk and printer), these will be reset by the latter as well. Remove all disks from the drive before hitting the reset button.

The particular addresses which you SYS to perform the reset on the VIC-20 and Commodore 64 are:

VIC-20	64802
Commodore 64	64738

The Commodore 64 address is easy for former VIC-20 owners to remember for it is equivalent to the VIC-20's address less 64 (SYS64802-64). Can this be a coincidence?

The hardware reset clears the tape buffer, resets all I/O, restores all the system vectors, clears the screen and displays the familiar BYTES FREE message. The latter is achieved through a non-destructive test of basic RAM in the VIC-20 and Commodore 64. This means that BASIC programs in memory are still intact after you hit the reset button. This allows you to recover from a system crash by using the following procedure:

Load or enter the program in the usual fashion. Before running the program, make a note of the contents of locations 45 and 46 by peeking them. These values represent the end of the BASIC program in memory. Also note the contents of the second and third bytes of BASIC memory according to the following table:

Commodore 64	2Ø49,2Ø5Ø
VIC (unexpanded)	4Ø97,4Ø98
VIC (with 3k)	1Ø25,1Ø26
VIC (with 8k+)	46Ø9,461Ø

These values represent the address of the start of the second line of BASIC in your program.

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Run the program. If the system crashes, hit the reset button, poke the recorded values into their original locations, type CLR and hit RETURN. The program will be restored. The same technique can be used to recover from a NEW command.

Finally, any machine language programs in high RAM will remain intact after a system reset. For example, the C64 DOS Wedge can be restarted by SYS 52224, provided the machine has not been shut off.

* SOFTWARE

o ENHANCED PASCAL

"KMMM Pascal" is a subset Jensen and Wirth Pascal with all the string characteristics of UCSD Pascal. Version IV.1, now available, features several enhancements.

The latest version supports variable parameters, two-dimensional arrays and two disk support procedures: "ERASE" and "RENAME". Additional reserved words and identifiers not supported by the last release are: FILE NIL EOF NEW IN RECORD EOLN ROUND. The only missing features which keep KMMM Pascal from being a full Jensen and Wirth Pascal are variant records, sets, labels and the "WITH" statement.

The KMMM Pascal package includes four program modules, several sample programs and a user's guide. The four program modules are the Editor/Compiler, the Editor, the Compiler and the Translator.

. The Editor/Compiler includes a full screen edit mode and syntax checking to create a "clean" source file.

. The Editor is abbreviated and lacks the syntax checking portion of the Editor/Compiler in order to allow maximum RAM for long source files.

. The Compiler reads Pascal source files from cassettes or diskettes and generates P-code in high user memory.

. The Translator processes the P-code stored in memory and generates machine language modules for immediate or stand-alone execution. This last capability is one which makes KMMM Pascal unique. It is the only Pascal available for Commodore computers that generates true machine code.

A manual comes with the KMMM Pascal package to guide its use. It presupposes that the reader is already familiar with Pascal. Also included with the package are full user support, including a telephone support number and free error correction. Purchasers of previous versions can buy version IV.1 for a $15 upgrade charge. The first-time purchase cost of the package is $99. Willserv Industries, P.O. Box 456, Bellmawr, NJ 08031. 609/227-8696.

o COMMODORE 64 SPREADSHEET

"PS" is an enhanced version of the Practicalc programmable spreadsheet (see August issue of BMR). It allows use of the full input/output and data formatting capabilities of the spreadsheet, in conjunction with short BASIC "modules" for calculations not otherwise possible in a spreadsheet environment. For instance, the simple module below fills the spreadsheet cells with random numbers:

```
2ØØØ FOR X=Ø TO RL:FOR Y=Ø TO CL:V(X,Y)=INT(1ØØØ*(RND(Ø)))
2Ø1Ø F$(X,Y)=CHR$(192):NEXT Y:NEXT X:GO TO 3ØØ
```

Several ready-to-use applications modules will be available for the program. They will include: calling the disk directory; solving simultaneous linear equations; computation of net present value of an income stream; and a help module to display a menu of PS commands. The manual includes a tutorial section on how to use the programmable features of "PS". $79.95. Micro Software International, Inc., The Silk Mill, 44 Oak St., Newton Upper Falls, MA 02164. 617/527-7510.

* HANDY HINT

o A ONE-HANDED RUN

After loading a BASIC PROGRAM in the Commodore 64 or VIC-20, you can achieve a one-handed run by holding down the left shift key while pressing the double quote (") and the RUN/STOP key in sequence. The screen will briefly display a syntax error message followed by the word RUN before running the program.

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PERSONALIZED REPORT FOR: **DEC**

October, 1983

* PROFESSIONAL 350 PERFORMANCE UPDATE

Based on added speed and throughput, the performance of the Professional 350 computer is upgraded some 25% overall by recent hardware/software enhancements, according to Digital Equipment Corporation. These enhancements are accompanied by pricing adjustments also designed to improve price/performance for users.

All software written for earlier models will run on the enhanced systems without modifications. Current 350 users can upgrade their P-350 systems, using a DEC upgrade kit.

o ENHANCED STANDARD FEATURES

Two enhancements of standard P-350 features included in the DEC announcements are:

. Doubling of main memory to 512K bytes, from 256K
. Floating point functionality

In addition, the capacity of the integrated Winchester disk shipped with the P-350 is raised to 10 megabytes from 5 MB.

o PRICING ADJUSTMENTS

Adjustments in P-350 system component pricing include the following:

. Model 350 with a 10MB hard disk, and 512 KB memory is now priced at $8,590.
. The same Model 350 configuration with a 5MB Winchester, instead of 10MB, is priced at $8,290 vs. $9,515.
. The Model 350, without hard disk but with 800KB of floppy disk storage, is priced at $5,595 vs. $6,015.

In addition, the diskette-based Model 325 is now priced at $4,595 vs. $5,015.

* SOFTWARE ENHANCEMENTS

New and upgraded software featured in the DEC announcements include applications programs, operating systems, communications packages and additions to the DEC Professional Developer's Tool Kit.

o APPLICATIONS SOFTWARE

Five programs for database management, graphics, decision support, and spreadsheet applications have been added to third-party software for P300 Series available through DEC's Digital Classified Software program. These packages and their prices are:

. SUPERCOMP-TWENTY ($400) spreadsheet program is compatible with DEC PDP-11 and VAX minicomputers.
. NPL Information Management System ($800) is a fourth generation applications development language. Designed to support report writing and database applications by managers and professionals, it is claimed to feature simple and flexible English syntax for report creation.
. FINGRAPH ($595) is a visual management support program that converts financial, managerial or operational databases into visual displays.
. MAPS/PRO Financial Modeling ($1,250) is a full version of the VAX minicomputer-based financial modeling program.
. TK!SOLVER ($299, plus $100 per TK!SolverPack) is an equation solver which eliminates the need to manipulate algebraic solutions. DEC offers the TK!SolverPack for financial management and mechanical engineering.

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o P/OS OPERATING SYSTEM

Both hard disk and diskette versions of the P/OS operating system are now supplied with P-350 and P-325 computers. The hard disk version provides quicker access to files created and stored with the PROSE editor, and an improved menu-user interface. The diskette version supports most applications menus, help text, and message frames available on the hard-disk version.

o ENHANCED COMMUNICATIONS

PRO/Communications software for P-300 Series computers includes various technical enhancements:

. PRO/Communications package ($195) allows selection and storage of a range of terminal characteristics. It allows users to transfer files between DEC P-300 micros and DEC minis. File transfer operations in progress may be aborted by using screen-display commands.

. PRO-2780/3780 emulator package ($595) manages remote batch communications at speeds of up to 9,600 baud by emulating the BISYNC communications protocols of an IBM 2780 or 3780 workstation.

o USER SOFTWARE DEVELOPMENT AIDS

Three additional high-level languages are available with the DEC Professional Developer's Tool Kit for the development of applications hardware. They are FORTRAN-77, COBOL-81, and Pascal. They join BASIC-PLUS 2, C, DIBOL and MACRO-11.

In a separate announcement, DEC has announced free support for users of third-party applications software sold under the Digital Classified Software program. The Application Advisory Support (AAS) service provides users with telephone assistance for software installation and operation. It is free during the 90-day warranty period for a DEC personal computer.

* RAINBOW 100 HARD DISK, MEMORY OPTIONS

An 11-megabyte internal hard disk system and two memory expansion boards for the Rainbow 100 have been introduced by Univation, Inc. The disk system is housed in the space for the Rainbow 100's second floppy disk drive. The host bus adaptor plugs into the memory option slot and comes standard with 64K bytes of RAM. An additional 256K bytes is available through a special connector. The hard disk system supports CP/M 80/86 and MS-DOS, and includes Ramdisk software. Its price ranges from $2,795 to $3,690.

One of the two new expansion boards provides 64K to 192K bytes and mounts in the memory option position. The second board piggybacks directly on top of the first board and features 128K to 256K bytes of RAM. Both boards include Ramdisk software. Prices range from $395 to $1,595. Univation, Inc., 1037 N. Fairoaks Ave., Sunnyvale, CA 94089.

* DEC MICRO SOFTWARE AVAILABILITY

o RAINBOW 100

. 1-2-3 integrated software ($495) - spreadsheet analysis, graphics, information management. Runs under CP/M-86. By Lotus.

. USCD p-System ($825) development and runtime system by Ticom. Includes operating system, USCD Pascal language compiler and debugger, full-screen editor, file handler, conditional macro assembler, and assembly code linker.

. Select word processing software ($495) from Select Information Systems. Runs under CP/M; features on-screen tutor. Provides background printing while creating another document, forms fill-in mode, and a Key mode to associate boiler-plate and standard text with a function key.

o PROFESSIONAL 300 SERIES

. Easy Entry ($995) forms design and data entry software for P-350. From Applied Information.

. Pascal and C Language compilers for P-325 and P-350 (Pascal, $1,400; C Language, $1,100). From Whitesmiths.

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PERSONALIZED REPORT FOR: IBM-PC

October, 1983

* DOING IT BETTER (Reports from users, user groups and the media)

o PUBLIC DOMAIN PC-DOS SOFTWARE

One of the most substantial libraries of CP/M software also has a sizeable PC-DOS increment, according to Donald C. Wiss, Secretary of the New York Amateur Computer Club. The fast-growing library now includes 33 disks. Of these, 17 (No. 1 and Nos. 18-33) run under PC-DOS without modification. Disks 2 through 6 are currently being converted and will be released. Inquiries may be directed to NYACC, P. O. Box 106, Church Street Station, New York, NY 10008.

o PC-DOS DISK LAYOUT

Noteworthy among the attractive features of PC-DOS 2.0 is the capability that it provides to increase disk storage capacity by 12-1/2%. It does this by raising the number of soft sectors per track from 8 to 9, and increasing the quantity of information packed into each track. Accordingly, the storage capacity of a double-sided disk is expanded from 320K bytes with DOS 1.0 to 360K bytes under PC-DOS 2.0. As welcome as this increase in storage capacity is, it does create some problems in using certain kinds of software:

. Programs oriented to PC-DOS 1.0 that indicate how much available space remains on a disk will certainly experience difficulties.

. Programs that read disk directories will similarly run into complications because the increase in storage capacity requires changes in the layout of disk contents.

o IBM-OSBORNE FILE EXCHANGE

Direct cable connection between the Osborne computer and the IBM PC is possible without any need to cross signal lines. This can be accomplished using a pre-made 25-line cable with a socket connection at the IBM end, and a plug connector at the Osborne end.

To transmit WordStar files of 8-bit words at 1200 baud between the two linked machines, the IBM operator started up PC-TALK 3.0 and then selected the appropriate communications parameters. (PC-TALK is set for these conditions by pressing Alt-P, and then selecting menu item No. 4, 1200 baud, no parity, 8 bits, 1 stop bit. (eof)

Sending files from the Osborne computer to the IBM PC was more complicated due to PIP inserting stray characters at the start of a file. However, these were removed using EDLIN. Excerpted from the June, 1983 PC Report of the Boston Computer Society.

* HARDWARE

o FULL-SIZE IBM PC/XT KEYS

KEYTOPS overlay existing control keys on the IBM keyboard and label them in English instead of symbols. They enlarge the striking surface by as much as 100% on some keys. They also change the color of the keys to make them instantly recognizable as major control keys, like a typewriter's. Each KEYTOPS kit contains six surfaces imprinted for RETURN/ENTER, both SHIFTS, TAB, BACKSPACE and "0". Stick tabs for adhesion of KEYTOPS to existing keys are also included.

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Single kits sell for $18.95, but discounts of up to 50% are available for quantity orders by clubs, dealers, and large organizations. Applied Dynamics, P.O. Box 1810, Cottonwood, AZ 86326. (602)634-4503

o HARD DISK KIT

To build this 5-megabyte Winchester drive - available as a kit for $1,500 - you must have a soldering iron as well as the knowhow to use it. (User groups buying 10 kits get one free.) Compute Dynamics, Greer, SC 29651. (803)877-7471.

o CHIPS AND BOARDS

. Expansion board expandable from 64K to 1 megabyte includes a programmable memory write-protect among its features. MBI, Irvine, CA 92713. (619)727-0202.
. RAMPLUS addresses the RS232 and parallel ports to any unused address in memory. It accepts either 64K or 256K memory chips for a total of up to 1 megabyte of memory. Raytronics, San Diego, CA 92117. (619)280-4000.
. Memory expansion kit to add 64K memory does not include a slot ($39.95). A 256K plug-in board ($89.95) is also available from the same source. So are untested 64K RAM chips ($5.59 each), and tested and modified chips ($7.79 each). Purple Computing, 4807 Calle Alto, Camarillo, CA 93010. (805)987-4788.

* SOFTWARE

o FOUR NEW PC PROGRAMS

IBM has introduced four word processing, business and tutorial programs for the IBM PC.
. IBM Personal Computer Word Proof ($60) is a spelling-check program which includes a 125,000-word dictionary and a thesaurus. Its full-screen editing function provides features such as searching for and replacing words and phrases, reformatting documents, word wrapping, adjusting margins and printing files. Word Proof also works with IBM PC versions of the Personal Editor, Professional Editor, EasyWriter and PeachText.
. IBM Personal Computer Mailing List Merger ($195) allows a user to enter, store, retrieve and print names and addresses on labels. It may be used with the IBM PC versions of the Easywriter and PeachText word processing programs.
. IBM Personal Computer VisiCalc 1.2 ($200) is an update of VisiCalc 1.1 that can address up to 512K bytes of memory and can reside on and support a flexed disk.
. Exploring the IBM Personal Computer is an introductory tutorial diskette that is now included with all IBM PC systems.

o BUSINESS PLANNING TOOL

The program's developers claim that novice computer users can utilize BPT to create powerful financial models with less than 10 minutes of instruction. Each BPT budget account is defined by positioning the cursor at the desired location and typing in the account name and type (Expenses, Assets, Liabilities, or Equity). Numeric data is entered by "filling in the blanks." Each account has a "start" date for the first month in which numeric entries are made.

A Time Window allows users to look forward or backward within the 12-month field of display, starting from a given start date. All data or individual components for a given account can be displayed as a horizontal bar graph using a "graph" screen feature. The bar can be edited on screen and "extended" or "shrunk" to make the consequences of various inputs readily apparent to the user.

BPT lists for $195 and requires 128K bytes of RAM and one disk drive. Softstar, Inc., 13935 U.S. Highway #1, Juno Beach, FL 33408. (305)627-5511.

o HARD DISK SUPPORT FOR VISICORP SOFTWARE

VisiCorp has upgraded VisiSeries software for use with IBM PC or XT hard disks. IBM users can create data files on hard disks, as well as install and load the programs from the disks into their computers. The upgraded programs include VisiCalc, VisiTrend, VisiFile, VisiWord, VisiSpell, and VisiSchedule. The upgrade cost for IBM PC users who have purchased and registered VisiSeries software is $20 for each program when traded in for the new version. The first-time purchase cost of the individual program is unaffected.

BARON'S MicroComputing REPORTS

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PERSONALIZED REPORT FOR: OSBORNE

October, 1983 Edited by Henryk Baran

* EXECUTIVE II - FAREWELL TO CP/M-80

According to a dealer advisory, there has been a radical change in design for this machine. The co-processor (Z-80 and 8088) arangement has been abandoned; the Executive II will be a straightforward, high-powered IBM compatible, designed to compete head-to-head with the Compaq. Owners of the Executive I will be given the chance to upgrade. (A radical operation on the insides of the computer will be involved.) They will be able to transfer their files over to one of the operating systems on the 8088.

This move opens up interesting questions. OCC seems to be trying to develop a differentiated product line, rather than an all-in-one unit. There is, however, a real question of how soon the new model will be actually on dealers' shelves. As for end-users, Executive I owners will face a tough choice: to stay with the CP/M-80 world (improved through CP/M 3.0), or to move firmly into the PC-DOS/MS-DOS camp. Osborne 1 owners who have been considering upgrading to the Executive I should also exercise caution: it is probably better to wait until the Executive II is there, before making a move. It may be better to upgrade directly to an Executive II, and not to give away or sell your Osborne 1.

* dBASE II DOINGS

o THE OSBORNE CONNECTION

dBASE II, sold as one of the Osborne software packages, was distributed as an extra bonus to new Osborne 1 purchasers during the fall-winter 1982 promotion. This has made Osborne owners a very substantial segment of the community of dBase users. Until August, this community looked like one which through no fault of its own, was caught in a peculiar bind with respect to both support and upgrades. Given the number who took advantage of the OCC offer, few dealers were able to provide the kind of help which the complex and powerful dBase package requires. The Portable Companion published some useful brief command files. However, users were cut off from support by Ashton-Tate, which took the position that its agreement with OCC relieved it of further responsibility in this area. As a result, Osborne owners neither received technical support documents from Ashton-Tate, nor were they able to upgrade to version 2.4 of dBase.

Happily, this situation has changed, and Osborne owners can now obtain version 2.4 directly from Ashton-Tate for $75. If you are not yet in the Ashton-Tate database, they will send you the necessary registration forms. Contact the Upgrade Department, Ashton-Tate, 10150 West Jefferson Blvd., Culver City, CA 90230. 213/204-5570.

o dBASE II, VERSON 2.4

Currently available as an upgrade for $75, version 2.4 fixes many of the bugs found in earlier releases, enhances certain commands and adds some new ones. Most interesting:

a. TEXT-ENDTEXT command. Helps in generating form letters and other block data applications. Eliminates the need for multiple ?, ??, and @ SAY commands, now required to insert text material in such situations.

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b. RELEASE command can now release subsets of all memory variables without listing them separately. E.G., RELEASE ALL LIKE ?NAME will release variables such as MNAME, NNAME, PNAME, etc.
c. Similarly, SAVE can now be used to save subsets of memory variables to a file.
d. HELP command has been added: the user can now get online basic information about syntax and usage. Please note: owners of earlier versions can obtain a similar capability to have online help by downloading a set of public domain files from the dBase RCPM system (408-378-8733) mentioned in our last issue. These can be added to your dBase disk, and work fine.
e. SET DELETE ON (default is OFF) makes dBase ignore all records marked for deletion. Unless a command addresses a deleted record by record number, all commands, including FIND and LIST treat it as invisible.

BMR Comment: These and other changes and additions make version 2.4 very worthwhile. Users can all hope it will be made available as soon as possible. By writing to OCC and/or A-T, they can help speed some arrangement that will respect their rights as consumers.

o dBASE ON THE EXECUTIVE

There appear to be problems with running the dBase customized for the Osborne 1 on the Executive I. Ordinary version 2.3B obtained from Ashton-Tate directly, or other vendors, runs without trouble. Alternatively, OCC will be releasing the dBase package for the Executive in the near future.

o THE dBASE-WORDSTAR CONNECTION

Although they are produced by different companies, dBase and WordStar can interface. Data from Mailmerge files can be put in dBase files with the APPEND FROM file DELIMITED WITH command. Conversely, you can generate Mailmerge files with the command COPY TO ... DELIMITED WITH ,. In the latter case, to avoid problems with Mailmerge's handling of commas, avoid the use of commas in the contents of your .DBF file's fields -- otherwise, you will have to go through your output, and insert quotation marks as needed.

A different way of linking the two programs is achieved with the commands:

```
SET ALTERNATE TO B:EXAMPLE.TXT
SET ALTERNATE ON
```

Issued together, they will enable you to send all your input and output to a file on disk, which can subsequently be processed and printed. Suppose that you want to use dBase's REPORT command to generate a report from your files, but want to supplement it with other information not found in the database (e.g., extended commentary on the data displayed in the report). When you are satisfied that your report format is satisfactory, issue these two commands, and follow them with the REPORT FORM ANYREPORT. Everything will now go to a disk file. Exit dBase, warmboot and enter WordStar, and you are now ready to edit. Get rid of extraneous material such as the commands issued (they too have been saved) and start typing in your additional material (or, if you have prepared it beforehand in appropriate segments, bring it in with the R (read file) command. In editing, be careful with columns -- remember that WordStar 2.26 does not know how to block move them, and can upset their arrangement easily.

* DOUBLE DENSITY UPGRADE PROBLEMS AND YOUR ROM

Some users who have obtained the double-density upgrade have experienced an unusual number of "BDOS error: bad sector" messages, or may have had problems reading diskettes in non-Osborne format. If this has happened to you, check your ROM release. People who upgraded early were given revision 1.43 ROMs. A 1.44 ROM is now available, and it appears to enhance significantly the reliability of disk operations. Check with your dealer: the change is simple enough. You may be charged for this, but the cost is low, and if you complain loudly enough, they may waive it.

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PERSONALIZED REPORT FOR: TEXAS INSTRUMENTS

October, 1983 Edited by Ed York

* TI SLASHES PERIPHERALS PRICES, RAISES BENEFITS FOR TI-99/4A OWNERS

Individual suggested retail prices for the Peripheral Expansion Box, 32K RAM Expansion Card, Disk Controller Card, and Expansion System Disk Drive (total previous suggested retail price: $1200) have been replaced by a suggested retail price of $550 for the above peripherals, combined in the Disk Drive Memory System.

In addition, new suggested - very much reduced - retail prices have been announced for the P-Code Card (from $250 down to $100), the RS232 card (from $175 down to $100), the Telephone Coupler modem (from $200 to $100), and the TI Impact Printer (from $750 to $500).

The other piece of good news from TI is the longest warranty available to purchasers of any home computer - on the TI-99/4A console - from 90 days to one year from the date of purchase.

TI's new toll-free number is 1-800-TI CARES. Operators on this line will provide answers to any questions users may have, and will act as a referral service on technical questions, the company promises.

* CASSETTE TIPS

Having problems with your cassette recorder? The reason may be that the polarity of the recorder's motor is reversed. Your cassette recorder should perform the following functions when used with a 99/4A computer:

. It must record or play back all of the sounds that represent a program in transit.

. It must respond to stop and start commands issued by the computer.

Unless the cassette recorder's motor has the right polarity, it will ignore all computer "start" and "stop" commands. This can be easily rectified by building a simple device for testing the motor's polarity. To make it, you will need the following:

1. a diode rated approximately 100 milliamps at 25 volts or better (typically, Radio Shack P/N 276-1101 through 1104)
2. a subminiature male plug (typically, Radio Shack P/N 274-289).

The diode has two wires - anode and cathode - identified by the instructions that come with it. The plug's shaft is divided by a small insulator into tip and sleeve sections.

Solder the anode lead to the anode terminal, and the cathode lead to the tip terminal. Wrap tape around it to make it look tidy, and the device is complete, except for testing. To test the device, simply insert the plug into the recorder's remote jack (REM). The cassette recorder's motor has the right polarity if you can make the cassette tape move by pressing the "FF"", "REW" or "PLAY" buttons.

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If the cassette tape does not move, you can modify the device and use it to convert a "wrong polarity" cassette recorder into a compatible unit for use with your 99/4A. To do so, carry out the following steps:

. Replace the diode with the proper female jack (typically, Radio Shack P/N 274-292).
. Solder the tip of the jack to the sleeve of the plug.
. Solder the sleeve of the jack to the tip of the plug.

To test your newly converted device, do the following:

. Insert the plug into the remote jack (REM) of the cassette recorder.
. Insert the black wire plug of the cassette cable in the jack that you have soldered.

You have now effectively reversed the polarity of the cassette recorder motor to make it compatible with your 99/4A computer, without having to alter the wiring of the remote jack (REM) of the cassette recorder itself.

* GAME SOFTWARE

I have had the opportunity recently to review some games that really made me sit up and take notice. At first, I was skeptical about the games, all of which came from Millers Graphics. Then I played one, and the graphics and speed were phenomenal. I, of course, assumed that I had selected, by chance, the best game. So I tried the next one, and the next, and so on, with the same high-quality results. It obviously could no longer be chance. The names of the games and descriptive summaries follow:

. Battle Over Titan. You must try to save your outpost on Titan by maneuvering your fighter drones to seek out weak spots in the Torg scanner protection and hit their weapon-aiming systems. How many fighter drones will you be able to repair and keep flying?
. The Pharaoh's Tomb. Try to collect as much treasure as possible from the tomb, but watch out for the hidden trap doors, moving walls, and the ghost of the dead pharaoh who is still there, protecting his treasure to this day.
. Casino Blackjack. You can learn how to play professional blackjack, test yourself at the game, or simply try your luck. You can choose from one, two or four decks of cards. The options are: to stand, to take a hit, double down, split a pair and, of course, take out insurance.
. Blackbeard's Treasure. Your five-man diving team has found the lost treasure of Blackbeard the Pirate. Unfortunately, it is at the bottom of a shark-infested sea and is protected by two giant octopuses. Can you make it back alive?
. Crazy Fun House. You must try to stay alive while clearing the screen in each level. Can you avoid eight ghosts, and will you be able to find your way through the invisible passageways where you will chase or be chased, dodge the ghosts or shoot them, and rack up bonus points? Can you learn the secret patterns on each screen?
. Alphabet Soup. It's an A! It's a B! It's a C! It's Souper Cracker to the rescue. This game is designed for the younger computer users and has optional speech.

These games were designed to operate with TI Extended Basic and either a cassette recorder or a disk drive. They are available - cassette, $14.95; disk, $17.95; plus $1.50 for handling and shipping - from Millers Graphics, 1475 W. Cypress Ave., San Dimas, CA 91773. 714/599-1431.

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PERSONALIZED REPORT FOR: TIMEX SINCLAIR

October, 1983 Edited by Jack Hodgson

* MICRODRIVES

Sinclair in Great Britain has recently announced the release of their much heralded ZX Microdrive. The Microdrive is a "stringy floppy" type mass storage device which can store at least 85K per drive and load a 48K program in as little as 3.5 seconds. Up to 8 Microdrives can be connected at one time, providing the system a capacity of 680K bytes.

This drive is designed to run on the British ZX Spectrum computer. At this time neither Sinclair nor Timex, which markets Sinclair products in the US, has plans to market the Microdrive here, but it is expected that imported Microdrives will be able to be used with T/S 2000 series computers with some user modification.

Also announced by Sinclair were their ZX Interface 1 and ZX Interface 2. The former is the device which supports the Microdrive and can provide serial interface for other devices. The ZX Interface 2, which will not be available until later this year, will enable the Spectrum to support ROM cartridge software and joysticks. These two features will be standard on the T/S 2000 computers.

* TELECOM

TS computer users need not be excluded from enjoying the benefits of telecommunications. By adding a modem, a relatively inexpensive peripheral to your TS1000, you can connect to a regular telephone line and communicate with a myriad of valuable and entertaining services. There are literally hundreds of private and commercial data bases you can hook into by subscription or merely for the asking. Two modems currently available for the TS1000 are the Byte Back Modem for $119.95 (kit) and $149.95 (assembled) from Byte-Back, Rt. 3, Box 147, Brodie Road, Leesville, SC 29070, 803-532-5812; and the J-Cat modem from Memotech, an auto answer-direct connect modem, for $199.00 (assembled only). Memotech, 7550 W. Yale Ave., Denver, CO 80227, 303-986-1516.

* COMPUSERVE TS SIG

In addition to offering many other valuable services, Compuserve contains an active and enthusiastic Timex Sinclair Special Interest Group (SIG). This SIG, which is actually a sub-group of The Computers and Electronics Magazine SIG, is made up of a public message system where TS users can read and leave messages for each other. It also features a database of articles and public domain software for the TS computer, and a real time conversation channel where you can actually talk (via your keyboard and screen) with other TS users around the country who are on the channel at the same time. This channel is used to conduct a very interesting TS meeting every Wednesday evening, starting at 10:30 Eastern Time. For those already using Compuserve, the CEM SIG starts on page CEM-450. Compuserve, 5000 Arlington Centre Boulevard, Columbus, OH 43220, 800-848-8990.

* IMPROVEMENTS

Want to pick up your TS 1000 or 1500 and not have to worry about losing the contents of its memory? The problem is that when you unplug the power, your

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computer "forgets" everything. This, it turns out, is easily remedied with the addition of a very simple electrical circuit consisting of a battery and two diodes. The August issue of Computers & Electronics shows just how it's done. (Check your local library or write: Back Issues, Computers & Electronics, POB 555, Morris Plains, NJ 07950. Include a check or money order for $3.00.)

* FLIGHT SIMULATOR

Once you have used the power of your TS computer to solve the serious problems of the world, you can sit back to enjoy some of the many games available. One that is particularly intriguing is the Flight Simulator from Timex. Here, you must pilot a small plane in simulated flight and land it safely. The graphics are necessarily not very high-resolution and the flight controls not absolutely realistic. Nevertheless, this program provides a very good opportunity to play at flying a light plane. It takes a few practice attempts (and crashes) to get the knack of landing the plane, but even after a couple of successes it still remains an interesting challenge.

VuCalc and the Flight Simulator, both $14.95, are available in retail stores and from TIMEX. Call 800-24TIMEX.

* BOOKS

o MASTERING MACHINE CODE ON YOUR ZX81, by Toni Baker. Reston Publishing. $12.95. This may well be the best book on the market for readers who want to learn machine language for their TS1000 series computers. Machine language is the basic set of low-level, simple instructions that the computer understands. Although it is far from being user friendly, it will speed up your programs significantly (as much as 10X) and give you direct access to the powerful Z80 microprocessor.

In her book, Baker presents a clear and entertaining presentation of both Z80 machine language in general and as it relates specifically to Sinclair computers. The only drawback to this book is that it presents details about both the earlier 4K operating system as well as the current 8K one. Reading both sets of information in the same paragraph can be confusing at times but doesn't really detract from the genuine value of this book.

o GETTING ACQUAINTED WITH YOUR ZX81, Creative Computing Press. $9.95. This is one of the early books for Sinclair computers, but its content is still very valuable for TS1000 series owners. Written by British National Users Group founder Tim Hartnell, it contains over 80 programs for the computer, including tips for using it more productively and instructions concerning programming.

* BRIT MAGS

Great Britain provides a wealth of resources for the Timex Sinclair computer user. Sinclair computers are tremendously popular there, and their creator, Clive Sinclair (now Sir Clive), is a national hero. Here are two British publications that, I believe, are of great interest.

Jam-packed with listings of games, more serious applications, and informative articles for the ZX 81 (TS1000/1500) and Spectrum (TS2000) is the British magazine "ZX Computing". This bi-monthly import has been averaging 148 pages per issue and is a real value for the TS owner. Highlights from the Aug/Sept issue: a business profitability program, a version of tic-tac-toe, an article on forming a users group, a primer on 3-dimensional graphics and much more. ZX Computing is now available on some newsstands in the U.S. If you can't find it, send a check for $3.95 to Argus Publications, 513 London Rd., Thornton Heath, Surrey, CR4 6AR, England.

The ZX Broadsheet, an informal user publication that bills itself as the "International Exchange between Sinclair ZX 81 and TS 1000 Users", presents articles, news items, program listings, reviews, and gossip. A sampling from issue #5 includes user comments, a program for drawing hi-resolution circles, and machine language utilities that will allow you to produce a screen border, flash the screen, scroll up, down, left and right, and more. If you're interested in seeing the ZX Broadsheet, send a check for $1.50 to Nick Godwin, 4 Hurkur Crescent, Eyemouth, Berwickshire, TD14 5AP, Scotland.